

## **APPENDIX 120.H SIGNS**

### **SECTION 120.H101 GENERAL**

**120.H101.1 General.** A sign shall not be erected in a manner that would confuse or obstruct the view of or interfere with exit signs required by Chapter 10 or with official traffic signs, signals or devices. Signs and sign support structures, together with their supports, braces, guys and anchors, shall be kept in repair and in proper state of preservation. The display surfaces of signs shall be kept neatly painted or posted at all times.

**120.H101.2 Signs exempt from building permits.** The following signs are exempt from the requirements to obtain a permit before erection:

- 1. Paint-only** nonilluminated signs.
2. Temporary signs announcing the sale or rent of property.
3. Signs erected by transportation authorities.
4. Projecting signs not exceeding 2.5 square feet (0.23 m<sup>2</sup>).
5. The changing of moveable parts of an approved sign that is designed for such changes, or the repainting or repositioning of display matter shall not be deemed an alteration.

### **SECTION 120.H102 DEFINITIONS**

**120.H102.1 General.** Unless otherwise expressly stated, the following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions.

**COMBINATION SIGN.** A sign incorporating any combination of the features of pole, projecting and roof signs.

**DISPLAY SIGN.** The area made available by the sign structure for the purpose of displaying the advertising message.

**ELECTRIC SIGN.** A sign containing electrical wiring, but not including signs illuminated by an exterior light source.

**GROUND SIGN.** A billboard or similar type of sign which is supported by one or more uprights, poles or braces in or upon the ground other than a combination sign or pole sign, as defined by this code.

**POLE SIGN.** A sign wholly supported by a sign structure in the ground.

**PORTABLE DISPLAY SURFACE.** A display surface temporarily fixed to a standardized advertising structure which is regularly moved from structure to structure at periodic intervals.

**PROJECTING SIGN.** A sign other than a wall sign, which projects from and is supported by a wall of a building or structure.

**ROOF SIGN.** A sign erected upon or above a roof or parapet of a building or structure.

**SIGN.** Any letter, figure, character, mark, plane, point, marquee sign, design, poster, pictorial, picture, stroke, stripe, line, trademark, reading matter or illuminated service, which shall be constructed, placed, attached, painted, erected, fastened or manufactured in any manner whatsoever, so that the same shall be used for the attraction of the public to any place, subject, person, firm, corporation, public performance, article, machine or merchandise, whatsoever, which is displayed in any manner outdoors. Every sign shall be classified and conform to the requirements of that classification as set forth in this chapter.

**SIGN STRUCTURE.** Any structure which supports or is capable of supporting a sign as defined in this code. A sign structure is permitted to be a single pole and is not required to be an

integral part of the building.

**WALL SIGN.** Any sign attached to or erected against the wall of a building or structure, with the exposed face of the sign in a plane parallel to the plane of said wall.

## **120.SECTION H103 LOCATION**

**120.H103.1 Location restrictions.** Signs shall not be erected, constructed or maintained so as to obstruct any fire escape or any window or door or opening used as a means of egress or so as to prevent free passage from one part of a roof to any other part thereof. A sign shall not be attached in any form, shape or manner to a fire escape, nor be placed in such manner as to interfere with any opening required for ventilation.

*A sign shall not be located in violation of local zoning requirements.*

## **SECTION 120.H104 IDENTIFICATION**

**120.H104.1 Identification.** Every outdoor advertising display sign hereafter erected, constructed or maintained, for which a permit is required shall be plainly marked with the name of the person, firm or corporation erecting and maintaining such sign and shall have affixed on the front thereof the permit number issued for said sign or other method of identification approved by the building official.

## **SECTION 120.H105 DESIGN AND CONSTRUCTION**

**120.H105.1 General requirements.** Signs shall be designed and constructed to comply with the provisions of this code for use of materials, loads and stresses.

**120.H105.2 Permits, drawings and specifications.** Where a permit is required, as provided in Chapter 1, construction documents shall be required. These documents shall show the dimensions, material and required details of construction, including loads, stresses and anchors.

**120.H105.3 Wind load.** Signs shall be designed and constructed to withstand wind pressure as provided for in Chapter 16.

**120.H105.4 Seismic load.** Signs designed to withstand wind pressures shall be considered capable of withstanding earthquake loads, except as provided for in Chapter 16.

**120.H105.5 Working stresses.** In outdoor advertising display signs, the allowable working stresses shall conform to the requirements of Chapter 16. The working stresses of wire rope and its fastenings shall not exceed 25 percent of the ultimate strength of the rope or fasteners.

### **Exceptions:**

1. The allowable working stresses for steel and wood shall be in accordance with the provisions of Chapters 22 and 23.
2. The working strength of chains, cables, guys or steel rods shall not exceed one-fifth of the ultimate strength of such chains, cables, guys or steel.

**120.H105.6 Attachment.** Signs attached to masonry, concrete or steel shall be safely and securely fastened by means of metal anchors, bolts or approved expansion screws of sufficient size and anchorage to safely support the loads applied.

## **SECTION 120.H106 ELECTRICAL**

**120.H106.1 Illumination.** A sign shall not be illuminated by other than electrical means, and electrical devices and wiring shall be installed in accordance with the requirements of the *Massachusetts Electrical Code (527 CMR 12)*.

**120.H106.1.1 Internally illuminated signs.** Except as provided for in Sections 402.14 and 2611, where internally illuminated signs have sign facings of wood or approved plastic, the area

of such facing section shall not be more than 120 square feet (11.16 m<sup>2</sup>) and the wiring for electric lighting shall be entirely enclosed in the sign cabinet with a clearance of not less than 2 inches (51 mm) from the facing material. The dimensional limitation of 120 square feet (11.16 m<sup>2</sup>) shall not apply to sign facing sections made from flame- resistant-coated fabric (ordinarily known as “flexible sign face plastic”) that weighs less than 20 ounces per square yard (678 g/m<sup>2</sup>) and which, when tested in accordance with NFPA 701, meets the requirements of both the small-scale test and the large-scale test, or which, when tested in accordance with an approved test method, exhibits an average burn time for 10 specimens of 2 seconds or less and a burning extent of 15 centimeters or less.

**120.H106.2 Electrical service.** Signs that require electrical service shall comply with the *Massachusetts Electrical Code (527 CMR)*.

## **SECTION 120.H107 COMBUSTIBLE MATERIALS**

**120.H107.1 Use of combustibles.** Wood, approved plastic or plastic veneer panels as provided for in Chapter 26, or other materials of combustible characteristics similar to wood, used for moldings, cappings, nailing blocks, letters and latticing, shall comply with Section 120.H109.1, and shall not be used for other ornamental features of signs, unless approved.

**120.H107.1.1 Plastic materials.** Notwithstanding any other provisions of this code, plastic materials which burn at a rate no faster than 2.5 inches per minute (64 mm/s) when tested in accordance with ASTM D 635 shall be deemed approved plastics and can be used as the display surface material and for the letters, decorations and facings on *outdoor* signs and outdoor display structures.

*Note: For signs, other than those identified in section 120.H101.2 and that are used indoors, plastic sign materials shall conform to the applicable requirements set forth in Chapter 26 of this code.*

**120.H107.1.2 Electric sign faces.** Individual plastic facings of electric signs shall not exceed 200 square feet (18.6 m<sup>2</sup>) in area.

**120.H107.1.3 Area limitation.** If the area of a display surface exceeds 200 square feet (18.6 m<sup>2</sup>), the area occupied or covered by approved plastics shall be limited to 200 square feet (18.6 m<sup>2</sup>) plus 50 percent of the difference between 200 square feet (18.6 m<sup>2</sup>) and the area of display surface. The area of plastic on a display surface shall not in any case exceed 1,100 square feet (102 m<sup>2</sup>).

**120.H107.1.4 Plastic appurtenances.** Letters and decorations mounted on an approved plastic facing or display surface can be made of approved plastics.

## **SECTION 120.H108 ANIMATED DEVICES**

**120.H108.1 Fail-safe device.** Signs that contain moving sections or ornaments shall have fail-safe provisions to prevent the section or ornament from releasing and falling or shifting its center of gravity more than 15 inches (381 mm). The fail-safe device shall be in addition to the mechanism and the mechanism’s housing which operate the movable section or ornament. The fail-safe device shall be capable of supporting the full dead weight of the section or ornament when the moving mechanism releases.

## **SECTION 120.H109 GROUND SIGNS**

**120.H109.1 Height restrictions.** The structural frame of ground signs shall not be erected of combustible materials to a height of more than 35 feet (10668 mm) above the ground. Ground signs constructed entirely of noncombustible material shall not be erected to a height of greater than 100 feet (30 480 mm) above the ground. Greater heights are permitted where approved and located so as not to create a hazard or danger to the public.

**120.H109.2 Required clearance.** The bottom coping of every ground sign shall be not less than 3 feet (914 mm) above the ground or street level, which space can be filled with platform decorative trim or light wooden construction.

**120.H109.3 Wood anchors and supports.** Where wood anchors or supports are embedded in the soil, the wood shall be pressure treated with an approved preservative.

## **SECTION 120.H110 ROOF SIGNS**

**120.H110.1 General.** Roof signs shall be constructed entirely of metal or other approved noncombustible material except as provided for in Sections 120.H106.1.1 and 120.H107.1. Provisions shall be made for electric grounding of metallic parts. Where combustible materials are permitted in letters or other ornamental features, wiring and tubing shall be kept free and insulated there from. Roof signs shall be so constructed as to leave a clear space of not less than 6 feet (1829 mm) between the roof level and the lowest part of the sign and shall have at least 5 feet (1524 mm) clearance between the vertical supports thereof. No portion of any roof sign structure shall project beyond an exterior wall.

**Exception:** Signs on flat roofs with every part of the roof accessible.

**120.H110.2 Bearing plates.** The bearing plates of roof signs shall distribute the load directly to or upon masonry walls, steel roof girders, columns or beams. The building shall be designed to avoid overstress of these members.

**120.H110.3 Height of solid signs.** A roof sign having a solid surface shall not exceed, at any point, a height of 24 feet (7315 mm) measured from the roof surface.

**120.H110.4 Height of open signs.** Open roof signs in which the uniform open area is not less than 40 percent of total gross area shall not exceed a height of 75 feet (22 860 mm) on buildings of Type 1 or Type 2 construction. On buildings of other construction types, the height shall not exceed 40 feet (12 192 mm). Such signs shall be thoroughly secured to the building upon which they are installed, erected or constructed by iron, metal anchors, bolts, supports, chains, stranded cables, steel rods or braces and they shall be maintained in good condition.

**120.H110.5 Height of closed signs.** A closed roof sign shall not be erected to a height greater than 50 feet (15 240 mm) above the roof of buildings of Type 1 or Type 2 construction, nor more than 35 feet (10 668 mm) above the roof of buildings of Type 3, 4 or 5 construction.

## **SECTION 120.H111 WALL SIGNS**

**120.H111.1 Materials.** Wall signs which have an area exceeding 40 square feet (3.72 m<sup>2</sup>) shall be constructed of metal or other approved noncombustible material, except for nailing rails and as provided for in Sections H106.1.1 and H107.1.

**120.H111.2 Exterior wall mounting details.** Wall signs attached to exterior walls of solid masonry, concrete or stone shall be safely and securely attached by means of metal anchors, bolts or expansion screws of not less than <sup>3</sup>/<sub>8</sub> inch (9.5 mm) diameter and shall be embedded at least 5 inches (127 mm). Wood blocks shall not be used for anchorage, except in the case of wall signs attached to buildings with walls of wood. A wall sign shall not be supported by anchorages secured to an unbraced parapet wall.

**120.H111.3 Extension.** Wall signs shall not extend above the top of the wall, nor beyond the ends of the wall to which the signs are attached unless such signs conform to the requirements for roof signs, projecting signs or ground signs.

## **SECTION 120.H112 PROJECTING SIGNS**

**120.H112.1 General.** Projecting signs shall be constructed entirely of metal or other noncombustible material and securely attached to a building or structure by metal supports such as bolts, anchors, supports, chains, guys or steel rods. Staples or nails shall not be used to secure any projecting sign to any building or structure. The dead load of projecting signs not parallel to the building or structure and the load due to wind pressure shall be supported with chains, guys or steel rods having net cross-sectional dimension of not less than  $\frac{3}{8}$  inch (9.5 mm) diameter. Such supports shall be erected or maintained at an angle of at least 45 percent (0.78 rad) with the horizontal to resist the dead load and at angle of 45 percent (0.78 rad) or more with the face of the sign to resist the specified wind pressure. If such projecting sign exceeds 30 square feet (2.8 m<sup>2</sup>) in one facial area, there shall be provided at least two such supports on each side not more than 8 feet (2438 mm) apart to resist the wind pressure.

**120.H112.2 Attachment of supports.** Supports shall be secured to a bolt or expansion screw that will develop the strength of the supporting chains, guys or steel rods, with a minimum  $\frac{5}{8}$ -inch (15.9 mm) bolt or lag screw, by an expansion shield. Turn buckles shall be placed in chains, guys or steel rods supporting projecting signs.

**120.H112.3 Wall mounting details.** Chains, cables, guys or steel rods used to support the live or dead load of projecting signs are permitted to be fastened to solid masonry walls with expansion bolts or by machine screws in iron supports, but such supports shall not be attached to an unbraced parapet wall. Where the supports must be fastened to walls made of wood, the supporting anchor bolts must go through the wall and be plated or fastened on the inside in a secure manner.

**120.H112.4 Height limitation.** A projecting sign shall not be erected on the wall of any building so as to project above the roof or cornice wall or above the roof level where there is no cornice wall; except that a sign erected at a right angle to the building, the horizontal width of which sign is perpendicular to such a wall and does not exceed 18 inches (457 mm), is permitted to be erected to a height not exceeding 2 feet (610 mm) above the roof or cornice wall or above the roof level where there is no cornice wall. A sign attached to a corner of a building and parallel to the vertical line of such corner shall be deemed to be erected at a right angle to the building wall.

**120.H112.5 Additional loads.** Projecting sign structures which will be used to support an individual on a ladder or other servicing device, whether or not specifically designed for the servicing device, shall be capable of supporting the anticipated additional load, but not less than a 100-pound (445 N) concentrated horizontal load and a 300-pound (1334 N) concentrated vertical load applied at the point of assumed or most eccentric loading. The building component to which the projecting sign is attached shall also be designed to support the additional loads.

## **SECTION 120.H113 MARQUEE SIGNS**

**120.H113.1 Materials.** Marquee signs shall be constructed entirely of metal or other approved noncombustible material except as provided for in Sections H106.1.1 and H107.1.

**120.H113.2 Attachment.** Marquee signs shall be attached to approved marquees that are constructed in accordance with Section 3106.

**120.H113.3 Dimensions.** Marquee signs, whether on the front or side, shall not project beyond the perimeter of the marquee.

**120.H113.4 Height limitation.** Marquee signs shall not extend more than 6 feet (1829 mm) above, nor 1 foot (305 mm) below such marquee, but under no circumstances shall the sign or signs have a vertical dimension greater than 8 feet (2438 mm).

## **SECTION 120.H114 PORTABLE SIGNS**

**120.H114.1 General.** Portable signs shall conform to requirements for ground, roof, projecting, flat and temporary signs where such signs are used in a similar capacity. The requirements of this section shall not be construed to require portable signs to have connections to surfaces, tie-downs or foundations where provisions are made by temporary means or configuration of the structure to provide stability for the expected duration of the installation.

**Table 120.H 4-A  
SIZE, THICKNESS AND TYPES OF GLASS PANELS IN SIGNS**

<b>MAXIMUM SIZE OF EXPOSED PANEL</b>		<b>MINIMUM THICKNESS OF GLASS (inches)</b>	<b>TYPE OF GLASS</b>
<b>Any dimension (inches)</b>	<b>Area (square inches)</b>		
30	500	1/8	Plain, plate or wired
45	700	3/16	Plain, plate or wired
144	3,600	1/4	Plain, plate or wired
>144	>3,600	1/4	Wired glass

For SI: 1 inch = 25.4 mm 1 square inch = 645mm<sup>2</sup>

**TABLE 120.H 4-B  
THICKNESS OF PROJECTION SIGN**

<b>PROJECTION (feet)</b>	<b>MAXIMUM THICKNESS (feet)</b>
5	2
4	2.5
3	3
2	3.5
1	4

For SI: 1 foot = 304.8 mm

## **SECTION H115 REFERENCED STANDARDS**

ASTM D 635-98

Standard Test Method for Rate of Burning and/or Extent and H107.1.1

Time of Burning of Self-Supporting Plastics in a Horizontal Position

527 CMR 12

Massachusetts Electrical Code H106.1, H106.2

NFPA 701-99

Methods of Fire Test For Flame Propagation of Textiles and Films H106.1.1